

Rock Lake Aquatic Vegetation Management Plan 2006 Update February 14, 2007

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Executive Summary

Aquatic Control was contracted by the Rock Lake Conservation Club to complete aquatic vegetation sampling in order to update their 2004 aquatic vegetation management plan. Funding for development of this plan was obtained from the Rock Lake Conservation Club and the Indiana Department of Natural Resources-Division of Fish and Wildlife as part of the Lake and River Enhancement fund (LARE). This plan update was also created in order to continue eligibility for LARE program funding to control exotic or nuisance species.

Aquatic vegetation is an important component of lakes in Indiana; however, as a result of many factors this vegetation can develop to a nuisance level. Nuisance aquatic vegetation, as used in this paper, is described as plant growth that negatively impacts the present uses of the lake including fishing, boating, swimming, aesthetic, and lakefront property values. In the past, the primary nuisance species within Rock Lake is the exotic plant Eurasian watermilfoil. White water lily is also abundant in Rock Lake and can create nuisance situations around dock areas. The primary recommendation for plant control within Rock Lake includes the use of Renovate herbicide to selectively control Eurasian watermilfoil throughout the lake. A LARE funded treatment was completed in May of 2005 to 9.0 acres of Eurasian watermilfoil. The Association received LARE funding for treatment of up to 8.0 acres of Eurasian watermilfoil in 2006. In 2006. Eurasian watermilfoil was not detected in either the spring or summer plant surveys, so no treatment was completed. There appeared to be dense microscopic algae blooms during both sampling events. These blooms appeared to be affecting the density, diversity, and abundance of native vegetation. It is the recommendation of this plan that the Rock Lake Conservation Club continues to pursue funding for completion of vegetation surveys and potential treatment. In addition, it is recommended that the Association pursue LARE funding for completion of a diagnostic study which should help address the issue of the declining water quality. It was also recommended that lake residents follow environmentally sound lakefront property management practices.



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1.0 INTRODUCTION

This report was created in order to update the Rock Lake Aquatic Vegetation Management Plan. The update will serve as a tool to track changes in the vegetation community, to adjust the action plan as needed, and to maintain eligibility for additional LARE funds. Items covered include the 2006 sampling results, a review of the 2006 vegetation controls, and updates to the budget and action plans. The plan update was funded by the Indiana Department of Natural Resources Lake and River Enhancement Program (LARE) and the Rock Lake Conservation Association. Once reviewed and approved, the update should be placed in the Rock Lake Aquatic Vegetation Management Plan binder, following the 2005 update and prior to the appendix.

2.0 2006 SAMPLING RESULTS

Two surveys were completed on Rock Lake in 2006. A Tier I survey was completed in May and a Tier I and II survey was completed in August. The spring survey allowed for the determination of control areas and documentation of changes within the emergent and rooted-floating plant community. A second Tier I survey along with a Tier II survey was completed in August in order to document success or failure of the control techniques and to compare 2006 results to the 2005 data.

2.1 Spring Tier I Survey

On May 25, 2006, a Tier I survey was completed on Rock Lake. The Secchi depth was found to be 1.5 feet and plants were growing to a depth of 4.0 feet. The survey revealed five distinct plant beds totaling 12.7 acres (Table 1 & Figure 1). Eight different species were observed.

Table 1. Rock Lake Tier I Survey Results, May 16, 2006

Lake:Rock		Number	of plan	t beds: 5	5	
Date:5/25/06		Number	r of spec	cies: 8		
Secchi: 1.5 Littoral zone size: 1						
Plant Bed I.D.	1	2	3	4	5	
Plant Bed Size (acres)	3.7	0.1	8.7	0.1	0.1	
common coontail (Ceratophylum demersum)	1	-	-	-	-	
sago pondweed (Potamogeton pectinatus)	1	-	-	-	2	
white water lily (Nymphaea tuberosa)	2	2	2	1	-	
spatterdock (Nuphar variegetum)	1	4	4	4	-	
water willow (Justicia Americana)	1	-	1	-	-	
bulrush spp. (Scirpus spp.)	1	-	1	1	-	
common cattail (Typha latifolia)	1	-	1	1	-	
largeleaf pondweed (Potamogeton amplifolius)	-	-	_	_	2	



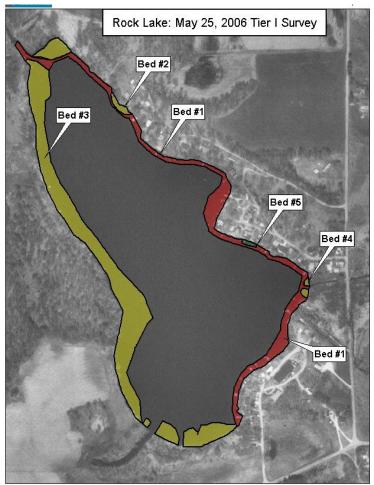


Figure 1. Tier I Plant Beds, Rock Lake, May 25, 2006

Plant bed 1 was located along the eastern side Rock Lake (Figure 1). It was determined to be 3.7 acres in size. A total of seven species were observed. White water lily (*Nymphaea tuberose*) was the dominant plant species. Coontail (*Ceratophyllum demersum*), sago pondweed (*Potamogeton pectinatus*), common cattail (*Typhia latifolia*), spatterdock (*Nuphar tuberosa*), water willow (*Justicia Americana*), and bulrush (*Scirpus spp.*), were present at the lowest abundance rating (less than 2%).

Plant bed 2 was located along the northeast shoreline of Rock Lake and was comprised entirely of rooted floating vegetation (Figure 1). This plant bed was determined to be 0.1 acres. Spatterdock was the most abundant species with a score of 4 (>60% abundance) followed by white water lily with a score of 2 (2-20% abundance).

Plant bed 3 was located on the entire western shoreline (Figure 1). This plant bed was determined to be 8.7 acres. A total of five plant species were observed in plant bed 3. This bed was comprised of rooted floating and emergent vegetation. Spatterdock was the most abundant species followed by white water lily, bulrush, water willow, and common cattail.



Plant bed 4 was located on the eastern side of Rock Lake and was determined to be 0.1 acres (Figure 1). Spatterdock was the most abundant species followed by white water lily, bulrush, and common cattail.

Plant bed 5 was located on the eastern shoreline (Figure 1). This plant bed was determined to be 0.1 acres. Plant bed 5 was comprised entirely of submersed vegetation. Largeleaf and sago pondweed were the only species observed in this bed.

No Eurasian watermilfoil was found during this survey despite extensive rake sampling.

2.2 August Survey

A Tier I and II survey was completed on August 1, 2006 in order to document changes in the plant community and to assist in planning for 2007.

2.2.1 August Tier I Survey

On August 1, 2006, a Tier I survey was completed on Rock Lake. The Tier I survey revealed six distinct plant beds totaling 15.2 acres (Table 2 & Figure 2). Seven different species were observed.

Table 2. Rock Lake Tier I Survey Results, August 1, 2006

Lake: Rock	Numb					
Date: 8/1/06	Numb		•			
Secchi: 1.5	Littora		•			
Plant Bed I.D.	1	2	3	4	5	6
Plant Bed Size (acres)	3.7	0.1	9.2	0.1	0.1	2.0
spatterdock (Nuphar variegetum)	1	4	4	4	-	-
white waterlily (Nymphaea tuberosa)	3	1	3	2	2	2
sago pondweed (Potamogeton pectinatus)	1	-	1	1	3	1
water willow (Justicia Americana)	1	1	-	1	1	1
common cattail (Typhia latifolia)	1	-	1	-	-	-
blueflag iris (Iris versicolor)	1	-	-	-	-	-
Bulrush (Scirpus spp.)	1	1	1	1	1	1



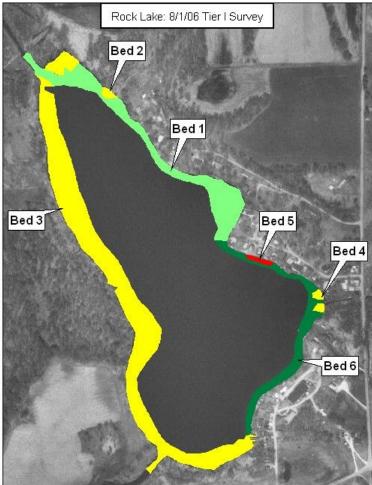


Figure 2. Tier I Plant Beds, Rock Lake, August 1, 2006

Plant bed 1 was located along the northeast shoreline of Rock Lake (Figure 2). It was determined to be 3.7 acres in size. A total of seven species were observed within the plant bed. White water lily was the dominant plant species. Spatterdock, sago pondweed, bulrush, water willow, common cattail, and blueflag iris were observed at the lowest abundance rating.

Plant bed 2 was located in the northeast corner of Rock Lake (Figure 2). This plant bed was determined to be 0.1 acres and was dominated by rooted floating vegetation. Spatterdock was the most dominant species. White water lily, bulrush, and water willow were also present.

Plant bed 3 was located on the western shoreline (Figure 2). Bed 3 was the largest plant bed at 9.2 acres and was dominated by rooted floating vegetation. A total of five plant species were observed in plant bed 3. Spatterdock was the most abundant species with a score of 4. White water lily was the second most abundant species with a score of 3. Sago pondweed, common cattail, and bulrush were also observed at lower abundance.

Plant bed 4 was located on the southeast side of Rock Lake (Figure 2). Bed 4 was found to be 0.1 acres and contained five different species. Spatterdock was the most abundant



species followed by white water lily. Sago pondweed, water willow, and bulrush were also observed.

Plant bed 5 was located just north of plant bed 4 along the eastern shore of Rock Lake (Figure 2). Bed 5 was found to be 0.1 acres and 4 species were observed. Sago pondweed was the most abundant species followed by white water lily. Bulrush and water willow were observed at the lowest abundance rating. Bed 5 was the only bed that had dense submersed vegetation growth.

Plant bed 6 was located in the southeastern corner of Rock Lake. This bed was found to be 2.0 acres. White water lily was the most abundant plant species observed. Sago pondweed, water willow, and bulrush were observed at the lowest abundance rating.

2.2.2 Tier II Survey

Tier II sampling took place on August 1, 2006 immediately following the Tier I sampling. A Secchi disk reading was taken prior to sampling, and was found to be 1.5 feet. Plants were present to a maximum depth of 4 feet. Forty sites were randomly selected within the littoral zone. Results of the sampling are listed in Table 3. The bottom half of Table 3 illustrates the frequency of occurrence and dominance of individual species. Vegetation was present at only five of the sample sites (Figure 3). The maximum number of species collected per site was 1.

Table 3. Rock Lake Tier II Survey Results, August 1, 2006.

Occurrence and abundance of submersed aquatic plants in Rock Lake											
County:	Fulton	Site	es with plants	: 8	Mean species/site: 0.20						
Date:	8/1/2006	Sites with	native plants	: 8	Standa	ard error (ms/s): 0.06					
Secchi (ft):	1.5	Numb	er of species	: 3	Mean nat	ive species/site: 0.20					
Maximum plant depth (ft):	4	Number of n	ative species	: 3	Standa	rd error (mns/s): 0.06					
Trophic status	Eutrophic	Maximum	species/site	: 1	S	pecies diversity: 0.53					
Total sites:	40				Native s	pecies diversity: 0.53					
All depths (0 to 10 ft)	Frequency of	Rake s	score freque	ncy per s	pecies	Plant Dominance					
Species	Occurrence	0	1	3	5	- Plant Dominance					
sago pondweed	12.5	77.5	12.5	0.0	0.0	2.5					
coontail	5.0	95.0	5.0	0.0	0.0	1.0					
small pondweed	2.5	97.5	2.5	0.0	0.0	0.5					
Depth: 0 to 5 ft	Frequency of Occurrence	Rake s	score freque	pecies	Plant Dominance						
Species	Occurrence	0	1	3	5						
sago pondweed	16.7	83.3	16.7	0.0	0.0	3.3					
coontail	6.7	93.3	6.7	0.0	0.0	1.3					
small pondweed	3.3	96.7	3.3	0.0	0.0	0.7					

Observed species: Sago pondweed, spatterdock, white water lily, blueflag iris, and bulrush. No plants observed from 6.0-10.0 feet.



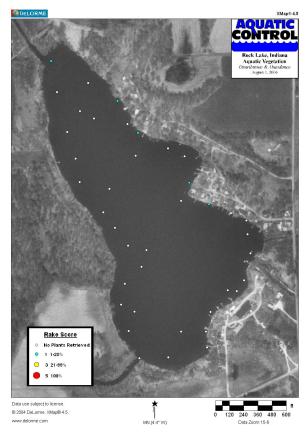


Figure 3. Location and density of aquatic vegetation, Rock Lake, August 1, 2006 (highest score was 1 which is represented by small light blue dot).

Only three species were collected: sago pondweed, small pondweed (*Potamogeton pusillis*) and common coontail. Sago pondweed had the highest frequency of occurrence (12.5) and dominance index (2.5). Location and density of sago pondweed is illustrated in Figure 4 (in species location and density figures, plant location is illustrated by a color coded dot, the color and size of the dot represents the density of the species, and sample sites without that species are illustrated by smaller white diamond). Common coontail was the second most abundant species collected and location and density of this species is illustrated in Figure 5. No invasive exotic species were collected.



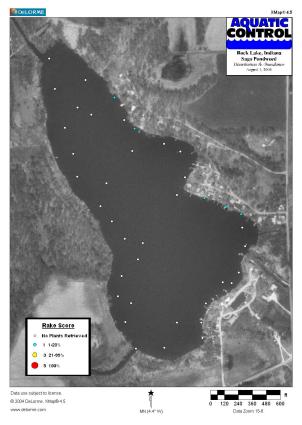


Figure 4. Location and density of sago pondweed, Rock Lake, August 1, 2006

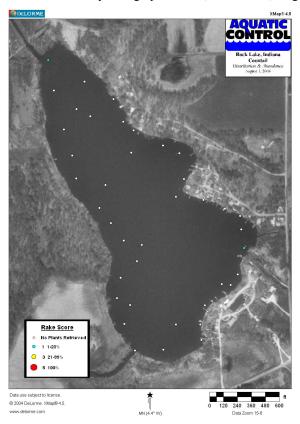


Figure 5. Location and density of common coontail, Rock Lake, August 1, 2006



2.3 Aquatic Vegetation Sampling Discussion

One of the main goals of the aquatic vegetation management plan is to control the negative impacts of aquatic invasive species. It appears that this goal was met again in the 2006 season. In the 2004 Tier II survey milfoil was found at 27.5% of sample sites. Milfoil was treated in the spring of 2005 with Renovate herbicide. No milfoil was detected in August of 2005 or August 2006 (Figure 6).

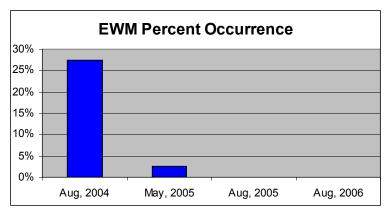


Figure 6. Rock Lake, comparison of Eurasian watermilfoil frequency of occurrence in the last four Tier II surveys.

Another goal of the vegetation management plan is to maintain a stable diverse aquatic plant community. A large bed of spatterdock and white water lily has traditionally existed along the western shoreline of Rock Lake. This bed was measured at over 15 acres in 2005. The 2006 survey found this bed to be just over 10 acres. There was also several floating spatterdock roots found in this area. It appears that increased turbidity has led to a reduction in the rooted floating plant beds. There also continues to be a lack of submersed native vegetation and this has changed little in the last three seasons. One of the main factors hampering development of a more diverse submersed plant community is poor water quality. Rock Lake had Secchi readings of 1.5 feet in both 2006 surveys. This is a decrease from last season when Secchi's were measured at 2.5 and 2.0 feet. The shallow Secchi reading are a result of dense microscopic algae blooms. These dense algae blooms block available light and limit plant growth to relatively shallow shoreline areas. Much of the shoreline of Rock Lake offers marginal substrate for plant growth. If the water quality is not improved in this lake, a diverse submersed native population may never return.

3.0 2006 VEGETATION CONTROL

The main control recommended in the action plan was treatment of Eurasian watermilfoil wherever it occurred. It was theorized that up to 8.0 acres of milfoil could require treatment in the 2006 season. However, no milfoil was detected despite extensive sampling during the spring and summer surveys. Since no milfoil was detected, no treatment was completed.



4.0 PUBLIC PARTICIPATION

A public meeting was held on October 23, 2006 in downtown Akron, Indiana at Sloan's restaurant. The meeting was organized as a tool for obtaining lake use information, updating the public on vegetation management activities, and as a way to help plan for future plant management activities. Ten individuals attended the meeting of which all had homes on Rock Lake and were members of the Rock Lake Conservation Association. A lake use survey was handed out and ten surveys were turned in. The surveys indicated that 90% of those in attendance used the lake for fishing, 80% for boating, 80% for swimming, and none of the respondents used the lake for drinking water or irrigation. Twenty percent of respondents believed there was still too much aquatic vegetation, 30% believed there was not enough aquatic vegetaton, while 100% wished to continue with the weed control project. Twenty percent believed that dredging was needed, while 80% believed there was a fish population problem. According to conversations with several respondents, they believed it was becoming more difficult to catch quality fish and that the lake needed another fish survey (the last fish survey was completed in 1997). Eighty percent believed there was a water quality problem.

Another topic discussed at the public meeting was the recent discovery of Hydrilla (*Hydrilla verticillata*) in Lake Manitou. Hydrilla is an invasive aquatic species that was originally discovered in Florida in the 1960's. There are many characteristics of hydrilla that make it a threat to Indiana waterways. This species can grow in lower light conditions than most native species, grows faster than most native species, and can shade out other species by forming a surface canopy. Hydrilla can be easily confused with native elodea. The best way to distinguish Hydrilla from native elodea is that Hydrilla typically has five leaves along each whorl along with visible serrated edges along the leaf margin (Figure 14). What makes controlling the spread of Hydrilla difficult is the fact that it can be spread by fragments. **That is why it is vitally important that lake users remove all plants and sediment from their boats when entering and leaving Rock Lake.** More information about controlling the spread of Hydrilla can be found at www.protectyourwaters.net.





Figure 7. Illustration of Hydrilla on the left compared to native elodea on the right. Hydrilla typically contains five toothed leaves per whorl while native elodea typically has three leaves per whorl and the teeth are not visible on the leaves (Illustrations provided by Applied Biochemist).

5.0 ACTION PLAN AND BUDGET UPDATE

The 2005 treatment effectively controlled Eurasian watermilfoil. No milfoil has been detected since the May 2005 treatment. This species does exist upstream, so it is possible that it could return from this source. It will be important to treat any milfoil that appears following May sampling. It is impossible to predict the exact amount of Eurasian watermilfoil that will require treatment next season, but it would be hard to imagine more than 5 acres of milfoil would be present. It is also difficult to predict exactly where the milfoil will occur. If needed, treatment areas will be determined after the spring sampling, which should be completed in a similar manner as 2006. The sampling data will also be valuable in tracking control of targeted species and monitoring changes in native populations. The updated budget is below (Table 4). The Rock Lake Conservation Association should request \$2,250 for treatment of up to 5 acres of Eurasian watermilfoil with Renovate granular or Renovate liquid herbicide \$2,250 for vegetation sampling and the plan update. The increase in the plan cost reflects an increase in the workload associated with the plan updating procedure.

Table 4. Budget estimates for management options

	2007	2008	2009
Herbicide & Application Cost*	\$2,250	\$1,750?	\$1,750?
Vegetation Sampling & Plan	\$2,250	\$2,250	\$2,250
Update			
Total:	\$4,500	\$4,000	\$4,000

^{*}Cost is figured on treating 5.0 acres of Eurasian watermilfoil in 2007. It is likely that no milfoil will be detected in 2007.



The main problem with Rock Lake is not nuisance aquatic vegetation, but degrading water quality. This has been made evident by the decrease in Secchi disc levels, decrease in native diversity, and declining spatterdock beds. The Conservation Association has been encouraged to pursue funding to develop a diagnostic study that should help pinpoint the source or sources of pollution that are contributing to the dense algae blooms. During the public meeting it was the opinion of those in attendance that the problem may be due to an increase in the year-round population and the outdated septic systems. During the biologist meeting it was the recommendation of the district biologist to contact the county health department in order to investigate the potential septic issue. In the meantime, it is very important that residents use the best management practices on their lakefront properties. These practices have been discussed at the public meetings and include using only phosphorus free fertilizers, allowing natural buffers to grow on the lake margins, and limiting the amount of yard waste entering the lake. Adoption of these practices may help reduce phosphorus loading and improve wildlife habitat. Reduction in phosphorus loading may help increase water clarity that could facilitate native plant recovery.

6.0 APPENDIX UPDATE6.1 August 2006 Plant Sampling Data

Plant Database

Lake	Date	Latitude	Longitude	Design	Site	Depth	RAKE	CEDE4	POPE6	POPU7
Rock Lake	8/1/06	41.04304	-85.977753		1	3.0	1			1
Rock Lake	8/1/06	41.04364	-85.977901		2	4.0	0			
Rock Lake	8/1/06	41.04382	-85.978403		3	5.0	0			
Rock Lake	8/1/06	41.04365	-85.979396		4	7.0	0			
Rock Lake	8/1/06	41.04418	-85.979324		5	4.0	1		1	
Rock Lake	8/1/06	41.04438	-85.979648		6	5.0	0			
Rock Lake	8/1/06	41.04491	-85.979951		7	3.0	1		1	
Rock Lake	8/1/06	41.0445	-85.980673		8	6.0	0			
Rock Lake	8/1/06	41.04532	-85.980851		9	4.0	0			
Rock Lake	8/1/06	41.04582	-85.981981		10	3.0	1	1		
Rock Lake	8/1/06	41.04511	-85.981804		11	3.0	0			
Rock Lake	8/1/06	41.04467	-85.9811		12	6.0	0			
Rock Lake	8/1/06	41.0442	-85.981491		13	4.0	0			
Rock Lake	8/1/06	41.04359	-85.981227		14	5.0	0			
Rock Lake	8/1/06	41.04305	-85.981102		15	3.0	0			
Rock Lake	8/1/06	41.0429	-85.980197		16	7.0	0			
Rock Lake	8/1/06	41.04236	-85.980387		17	5.0	0			
Rock Lake	8/1/06	41.042	-85.980028		18	5.0	0			
Rock Lake	8/1/06	41.0416	-85.979626		19	4.0	0			
Rock Lake	8/1/06	41.04149	-85.979062		20	7.0	0			
Rock Lake	8/1/06	41.04111	-85.979217		21	5.0	0			
Rock Lake	8/1/06	41.04072	-85.979727		22	4.0	0			
Rock Lake	8/1/06	41.04024	-85.97984		23	5.0	0			
Rock Lake	8/1/06	41.04008	-85.979429		24	10.0	0			
Rock Lake	8/1/06	41.03964	-85.979606		25	5.0	0			
Rock Lake	8/1/06	41.03901	-85.979279		26	2.0	0			
Rock Lake	8/1/06	41.03903	-85.9784		27	3.0	0			
Rock Lake	8/1/06	41.03962	-85.978009		28	10.0	0			
Rock Lake	8/1/06	41.03926	-85.977214		29	3.0	0	_		
Rock Lake	8/1/06	41.03962	-85.977249		30	1.0	0			
Rock Lake	8/1/06	41.04007	-85.977108		31	2.0	0			
Rock Lake	8/1/06	41.04057	-85.976582		32	10.0	0			
Rock Lake	8/1/06	41.04055	-85.976301		33	2.0	0			
Rock Lake	8/1/06	41.0408	-85.97608		34	2.0	0	*****		
Rock Lake	8/1/06	41.04142	-85.975889		35	2.0	0	1		
Rock Lake	8/1/06	41.04186	-85.975972		36	6.0	0			
Rock Lake	8/1/06	41.04217	-85.976014		37	1.0	0		1	
Rock Lake	8/1/06	41.04234	-85.976487		38	1.0	0		1	
Rock Lake	8/1/06	41.04255	-85.977151		39	2.0	1		1	
Rock Lake	8/1/06	41.04262	-85.978009		40	8.0	0			



6.2 2007 Permit Application

	VEGETATION State Form 26727 Approved State Bo Whole Lake	N FOR AQUATIC I CONTROL PERMIT ((R / 11-03) oard of Accounts 1987 Multiple Treatment Are Check type of permit	Lic Da pas	con OFFICE USE ON cense No. ate Issued	LY	Return to: Page 1 of 2 DEPARTMENT OF NATURAL RESOURCES Division of Fish and Wildlife Commercial License Clerk 402 West Washington Street, Room W273 Indianapolis, IN 46204				
INSTRUCTIO	NS: Please print or t	type information				FEE: \$5.00				
Applicant's Na	ame		La	ke Assoc. Name			٦			
	Rock Lake Cor	nservation Club			Rock lake	e Conservation Club				
Rural Route o	r Street					Phone Number	٦			
City and State		3701 Ironwood Wa	ay			812-497-2410 ZIP Code	4			
Oily and State		Anderson, IN				26011				
Certified Appli	cator (if applicable)		Co	ompany or Inc. Name		Certification Number	1			
Rural Route o	r Street					Phone Number	1			
City and State						ZIP Code	1			
Lake (One ap	plication per lake)	Lake	Ne	earest Town Akron		County Kosciusko-Fulton				
Does water flo	ow into a water suppl	ly				Yes X No	٦			
Please co	mplete one section	for EACH treatment area.	Attach la	ake map showing tre intake.	eatment are	ea and denote location of any water supply	Ī			
Treatment Are		LAT/LONG or UT	M's Tre	eat Eurasian watermil	foil where it	occurs (not more than 5.0 acres)				
controlled	5	Proposed shoreline treatme	nt length	th (ft) Perpendicular distance from shoreline (ft)						
Maximum De Treatment		Expected date(s) of treatme	ent(s)	Late May or early Ju	ne following	n plant survey	٦			
Treatment me	[]			Biological Control		echanical	1			
Based on trea						osal area, or the species and stocking				
-		rate or 2,4-D herbicide will be	V 1	70 - Car 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10			╡			
Plant survey r			er (specif		areas wi	Il be defined following spring survey	╡			
	Aquatic	Plant Name		Check if Target Species		Relative Abundance % of Community				
	White	Waterlilly				50				
	Eurasian	watermilfoil		X		0				
	Sago p	oondweed				20				
	Co	oontail				15				
	Spat	tterdock				10				
	Small p	pondweed				5				
							1			
							1			
							1			
							1			
							1			
				1			_			



1										`	Pa	age _	_2	of _2
Treatment Area #			LAT/LO	NG or U	TM's									
Total acres to be controlled		Propos	end shareling treatment length (ft)						Porpordicular distance from charaline (ft)					
Maximum Depth of				ed shoreline treatment length (ft) Perpendicular distance from shoreline (ft)										
Treatment (ft)			ted date(s) o	of treatm	ent(s)	_			_					
Treatment method:	Chemica	al _	Physical			ШВ	ological Control	L	Mechani	cal				
Based on treatment methorate for biological control.	od, describ	e chen	nical used, n	nethod o	f physic	ical or r	mechanical control	and di	isposal area	, or the speci	es and stoo	sking		
Plant survey method:	Rake	П	Visual	Ot	her (sp	ecify)								
A	quatic P	lant N	Name			C	Check if Target Species			Relative A % of Co	bundanc mmunity	e		
						+								
							*						_	
INSTRUCTIONS: Who							ney are a professional the "Certified Applican		y are a profes	sional compan	у			
Applicant Signature										Date				7 1 5
Certified Applicant's Signa	iture									Date				
												<u> </u>		
					F	OR OF	FICE ONLY							-
Па	pproved	Г	Disa	approved	1	Fi	sheries Staff Speci	ialist						
	pproved	F	Disa	approved	i	E	nvironmental Staff	Specia	alist					
Mail check or money order	r in the am	ount o	DEI DIVI COM 402	SION OI MMERCI	F FISH IAL LIC WASHII	AND VENSE	N STREET ROOM							

